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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,095	03/26/2004	Abdellatif Bellaouar	TI-36131	8199
23494	7590	08/01/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			MIS, DAVID C	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	

2817

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/810,095

Applicant(s)

BELLAOUAR ET AL.

Examiner

David Mis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0709.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 6, 7, 12, 13, 15-17 and 22 are rejected under 35

U.S.C. 102(a.) as being clearly anticipated by Sakurai '989.

Sakurai disclosed a voltage controlled oscillator (Title) comprising (Figure 1) an LC tank circuit (L11, L12, C11, C12, C41, C42) and a negative resistance generator (Q1, Q2) operational to oscillate at a frequency determined by the LC tank circuit [0013] and the LC tank circuit and the negative resistance generator together forming a VCO core ("core" refers to a part of a larger circuit, and the Sakurai VCO was part of a larger circuit [0004]) and a VCO core current source comprising at least one passive resistor (R3) and devoid of capacitors, inductors and active components ([0032] to [0034], where instead of semantically lumping capacitor C3 in the current source as did Sakurai, here the resistor is alone in the current source, and the capacitor is semantically called a filter as applicant does, since the function of the capacitor is to filter [0034])

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4, 6-10, 12-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art referenced by Applicant with respect to Figure 2 in view of Sakurai '989.

Figure 2 shows Applicant's circuit having a current mirror current source rather than a resistor current source. Sakurai said that in contrast to using current sources which generate low frequency phase noise, one should use a resistor ([0033] last 4 lines and [0034] last 5 lines). It would have been obvious to one of ordinary skill in the art to have used a resistor current source in the Figure 2 circuit art "motivated" to reduce phase noise. It is presumed that a switch would necessarily have been in series with the resistor in the power path for ON/OFF state control and that in a CMOS circuit, the switch would have been a CMOS one.

7. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art referenced by Applicant with respect to Figure 2 in view of Sakurai '989 and further in view of Tsukagoshi et al '884. Figure 2 shows Applicant's circuit having a current mirror current source rather than a resistor current source. Sakurai said that in contrast to using current sources which generate low frequency phase noise, one should use a resistor ([0033] last 4 lines and [0034] last 5 lines). It would have been obvious to one of ordinary skill in the art to have used a resistor current

source in the Figure 2 circuit art "motivated" to reduce phase noise. It is presumed that a switch would necessarily have been in series with the resistor in the power path for ON/OFF state control and that in a CMOS circuit, the switch would have been a CMOS one.

Tsukagoshi et al disclosed using a plurality of parallel resistor current sources programmed (column 5, lines 44-56, Figure 7, "15") for optimum current instead of a single current source (column 5, line 29 to column 6, line 5, Figure 7) where the current limiting devices could be resistors in series with switches (column 5, line 66 to column 6, line 4). Applicant's Figure 2 and Sakurai only use one current source resistor. It would have been obvious to one of ordinary skill in the art to have also used a plurality of parallel resistor current sources as disclosed by Tsukagoshi et al in the Figure 2 circuit "motivated" to provide an optimum level of current.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Mis
Primary Examiner
Art Unit 2817